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California Energy Commission
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1516 Ninth Street
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Re: Docket No. 11-IEP-1N

Docket Office:

Please find attached PG&E's comments on Technologies for Renewable Integration workshop, held November 16, 2010. Please contact me should you have any questions.

Sincerely,

Attachment

PACIFIC GAS AND ELECTRIC COMPANY COMMENTS IN RESPONSE TO THE NOVEMBER 16TH STAFF WORKSHOP ON ENERGY STORAGE AND AUTOMATED DEMAND RESPONSE TECHNOLOGIES TO SUPPORT RENEWABLE ENERGY INTEGRATION
Docket No. 11-IEP-1N

Pacific Gas and Electric Company (PG&E) appreciates the opportunity to participate in the California Energy Commission (CEC) staff's discussion surrounding the status of energy storage and Automated Demand Response (Auto-DR) technologies. PG&E also appreciates the hard work that the CEC and other stakeholders have done to contribute to this dialogue and to address these issues.

Energy storage technologies have the potential to increase the reliability and dispatchability of California's energy supply. The electricity grid of the future will need energy storage, automated demand response (e.g. Auto-DR enabled demand side resources), and other flexible resources to integrate variable renewables, provide ancillary services, manage peak demand, and relieve transmission and distribution congestion. As workshop participants showed, energy storage and Auto-DR solutions provide multiple products which are necessary to address California's future energy system challenges. However, many emerging technologies are not proven, especially on a utility scale.

Successful deployment of energy storage will depend on things like technology readiness, improved understanding of the costs and benefits of storage, funding for the demonstration of emerging technologies (i.e. batteries, flywheels, etc.), funding for established, long lead time technologies (i.e. pumped storage and possibly Compressed Air Energy Storage (CAES)), and a deeper discussion of market rules and policy recognition of storage. Addressing these issues will help enable more storage deployment in California.

PG&E encourages the CEC's efforts to make an honest assessment of the feasibility and cost of storage options which can be deployed to achieve 33% renewables by 2020. As indicated at the workshop, a study that consistently evaluates the costs and benefits of different storage benefits would be useful to sort out which storage options are available, and at what costs, to integrate higher levels of intermittent renewable resources.

PG&E also encourages continued funding of energy storage and Auto-DR technologies that need development and demonstration funding. Specifically Auto-DR technologies, including communication technologies and control technologies on customer side such as lighting/HVAC controls, need to be further developed to facilitate the enablement of faster demand response that will be required for the integration of renewable resources.

With respect to the suggestion that energy storage be added to California's loading order, PG&E believes such action would be counterproductive to the state having a cost-effective infrastructure for a 33% RPS resource portfolio. PG&E instead favors an honest evaluation of storage options, compared to other alternatives available to provide the system with the necessary operating flexibility to integrate higher renewable levels. Such a change would certainly be premature before the CPUC concludes its AB 2514-mandated proceeding to determine appropriate storage targets, if any, for each load-serving entity.

While storage is getting significant attention for use in integrating renewables, it should be a recognized that it would be most effectively used as a complementary part of a diverse portfolio that includes Auto-DR enabled resources and other flexible resources.